21AD148 A frequency independent method for adaptive correction of Time Interleaved Analog to Digital Converters

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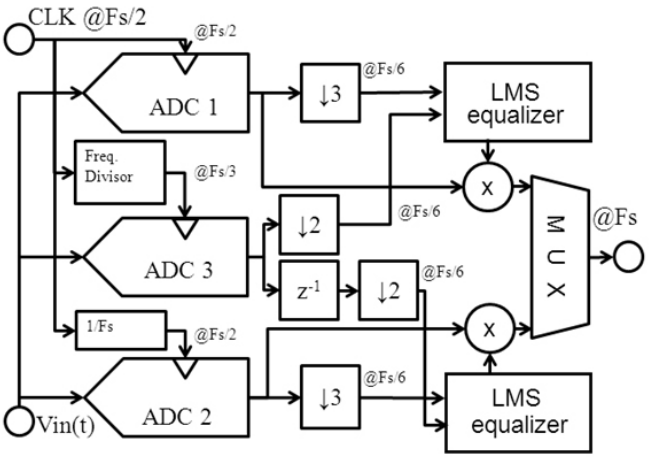
Time-Interleaved Analog-to-Digital Converters (TIADC) are well-known as an efficient solution to increase sampling rate. However manufacturing process introduces static errors which limit TIADC performance. This paper follows a previous one which proposed a fully blind digital solution using an adaptive least mean squares (LMS) filter to correct gain and offset mismatches. Due to interpolation operation, this solution was not frequency independent. Therefore we present a novel solution still basing on adaptive filtering which deals with frequency limitation. Numerical simulation results will be provided to validate efficiency of our method.



Novel method

21AD161 Low-cost multi-channel synchronous data acquisition system based on compressive sampling approach

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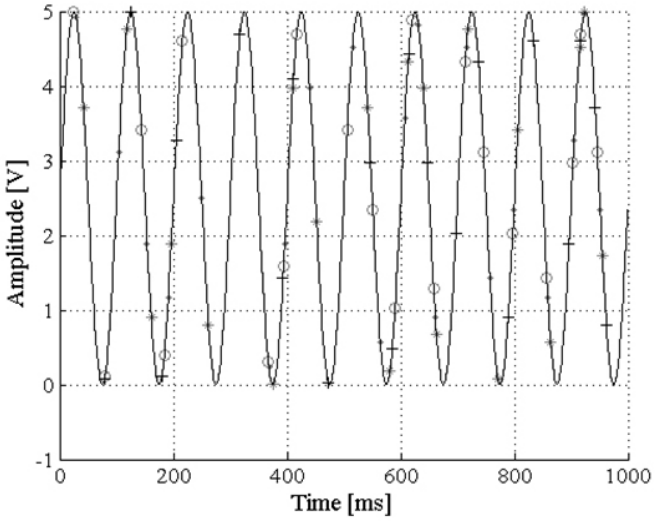
The paper deals with the design and implementation of multi-channel synchronous data acquisition systems (DASs) on low cost devices such as 8 or 16-bit microcontrollers. Such devices are characterized by several input channels that have, usually, to be managed according to sequential acquisition approaches. To overcome this limitations, the authors suggest the use of compressive sampling (CS) techniques in order to randomly acquire samples of the input signals on the desired channels in such a way as to make their successive reconstruction possible with the same time-base, i.e. as they were acquired by means of a synchronous DAS.



Reconstructed signals obtained through the acquisition of 20 random samples per channel.